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EXAMINER

AHLUWALIA, NAVNEET K

ART UNIT PAPER NUMBER

2166

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/07/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

**Application No.**

10/769,351

**Applicant(s)**

HARA ET AL.

**Examiner**

Navneet K. Ahluwalia

**Art Unit**

2166

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. This communication is in response to the Amendment filed December 13, 2006.

#### ***Response to Arguments***

2. Claims 1 – 33 are pending in this Office Action. After a further search and a thorough examination of the present application, claims 1 – 33 remain rejected. The rejection under 35 U.S.C. §112 2<sup>nd</sup> to claims 4 and 15 are withdrawn in view of the amendment.
3. Applicant's arguments filed with respect to claims 1 – 33 have been fully considered but they are not persuasive.

*Applicant argues that there is no teaching in Cotner of when a failure has occurred in one of said plurality of computers as a failed computer...changing association of said storage are with said DBMS on said failed computer to said substitute DBMS, said storage area to be managed by substitute DBMS running on said another computer.*

*In response to Applicant's argument, the Examiner submits that Cotner teaches the substitute DBMS running on another computer in the case of a failure column 6 lines 28 – 49. Cotner teaches how in case of a failure of a system the DBMS can be restarted or accessed from any of the other surviving systems.*

*Other claims recite the same subject matter and for the same reasons as cited above the rejection is maintained.*

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Hence, Applicant's arguments do not distinguish the claimed invention over the prior art of record. In light of the foregoing arguments, the 102 rejections are sustained.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1 – 33 rejected under 35 U.S.C. 102(b) as being anticipated by Cotner et al. ('Cotner' herein after) (US 6,247,055 B1).

With respect to claim 1.

Cotner discloses a method for processing databases in a system which includes a plurality of storage areas each storing a database and a plurality of computers each having a DBMS (DBMS) running thereon which manages one of said plurality of storage areas, each said storage area being associated with only said DBMS managing said storage area, said method comprising:

- when a failure has occurred in one of said plurality of computers as a failed computer, obtaining preset substitution information indicating that the storage area managed by the DBMS running on said failed computer is to be managed by the DBMS running on another one of said plurality of computers

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as a substitute DBMS (Figure 2, column 2 lines 60 – 67 and column 3 lines 1 – 9, Cotner); and

- based on said substitution information, changing association of said storage area with said DBMS on said failed computer to said substitute DBMS, said storage area to be managed by said substitute DBMS running on said another computer (Figures 3 and 4, column 4 lines 60 – 67 and column 5 lines 1 – 6, Cotner).

With respect to claim 2,

Cotner discloses the method as recited in claim 1, wherein said substitution information includes association information associating an identifier of said DBMS running on said failed computer with an identifier of said substitute DBMS running on said another computer, said substitution information indicating that said storage area managed by said DBMS running on said failed computer is to be managed by said substitute DBMS running on said another computer when a failure occurs (the resync port number is pre assigned and this is similar to the unique identifier of the substitute computer, column 5 lines 7 – 37, Cotner).

With respect to claim 3,

Cotner discloses the method as recited in claim 2, wherein said substitution information comprises a mutual substitution configuration in which two of the DBMSs are associated with one another whereby one of the two DBMSs is a substitute DBMS

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for the other of the two DBMSs as a failed DBMS mutually (column 5 lines 22 – 34, Cotner).

With respect to claim 4,

Cotner disclose the method as recited in claim 2, wherein said substitution information comprises a substitution configuration in which a group of the computers from a first DBMS to a last DBMS are associated with each other in a manner whereby a first DBMS is a substitute DBMS for a second DBMS which is a substitute DBMS for a third DBMS, and the last DBMS is a substitute DBMS for the first DBMS (column 5 lines 17 – 33, Cotner).

With respect to claim 5,

Cotner discloses the method as recited in claim 2, wherein said substitution information comprises an n-to-1 substitution configuration whereby one of the DBMSs is a substitute DBMS for n of the DBMSs as failed DBMSs (as shown in Figure 5 and column 5 lines 30 – 37 explain that the resync port number is matched to a list and it would be inherently possible that more than one system could have the same resync number, Cotner).

With respect to claim 6,

Cotner discloses the method as recited in claim 1, wherein said substitution information includes a plurality of pieces of association information each associating an

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identifier of said DBMS running on said failed computer, an identifier of the substitute DBMS running on one of a plurality of substitute computers, and priority information indicating a priority with one another, said substitution information indicating that said storage area managed by said DBMS running on said failed computer is to be managed by said substitute DBMS running on one of said other computers selected according to said priority information (column 5 lines 7 – 37, Cotner).

With respect to claim 7,

Cotner discloses the method as recited in claim 1, further comprising taking over processing from said DBMS on said failed computer by said substitute DBMS on said another computer based on said substitution information (column 3 lines 3 – 9, Cotner).

With respect to claim 8,

Cotner discloses a method for processing a database in a database management system which divides said database into a plurality of sub-databases and associates each sub-database with one of a plurality of database servers to process data, said method comprising (column 1 lines 41 – 61, Cotner):

- if one of said plurality of database servers is found to have failed as a failed database server when a request for processing is made to said failed database server, obtaining an identifier of another one of said plurality of database servers as a substitute database server which is to take over said processing from said failed database server based on information on

substitution relations between said plurality of database servers, and switching from said failed database server to said substitute database server for receiving said request for said processing (Figure 2, column 2 lines 60 – 67 and column 3 lines 1 – 9, Cotner);

- wherein said information on substitution relations between said plurality of database servers indicating which one of said plurality of database servers is used as a substitute database server if one of the other database servers fails is stored beforehand (Figures 3 and 4, column 4 lines 60 – 67 and column 5 lines 1 – 6, Cotner).

With respect to claim 9,

Cotner discloses the method as recited in claim 8, further comprising: receiving said request to which a substitution instruction based on said information on substitution relations has been added upon a failure of said failed database (column 3 lines 1 – 9, Cotner); and recognizing said substitution instruction and performing said processing in place of said failed database server based on said recognized substitution instruction (the resync port number is pre assigned and this is similar to the unique identifier of the substitute computer, column 5 lines 7 – 37, Cotner).

With respect to claim 10,

Cotner discloses the method as recited in claim 9, further comprising, before performing said processing in place of said failed database server, changing an



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execution environment of said substitute database server to an execution environment of said failed database server, said substitute database server taking over said processing (column 8 lines 36 – 51, Cotner).

With respect to claim 11,

Cotner discloses the method as recited in claim 9, wherein performing said processing in place of said failed database server comprises using a database buffer of the substitute database server for accessing a database storage area, a table, or an index associated with said failed database server (where the list could be an index in column 8 lines 36 – 42 and in Figure 5 element 215 is a table that has the resync numbers, Cotner).

With respect to claim 12,

Cotner discloses a system for processing databases, said system comprising:

- a plurality of storage areas each storing a database (Figure 1, Cotner); and
- a plurality of computers each having a DBMS running thereon which manages one of said plurality of storage areas, each said storage area being associated with only said DBMS managing said storage area (Figure 2 and column 1 lines 41 – 62, Cotner);
- wherein each DBMS includes a substitution control section configured, when a failure has occurred in one of said plurality of computers as a failed computer, to obtain preset substitution information indicating that the storage

area managed by the DBMS running on said failed computer is to be managed by the DBMS running on another one of said plurality of computers as a substitute computer (Figure 2, column 2 lines 60 – 67 and column 3 lines 1 – 9, Cotner); and, based on said substitution information, to change association of said storage area with said failed computer to said substitute computer, said storage area to be managed by said substitute DBMS running on said another computer (Figures 3 and 4, column 4 lines 60 – 67 and column 5 lines 1 – 6, Cotner).

With respect to claim 13,

Cotner discloses the system as recited in claim 12, wherein said substitution information includes association information associating an identifier of said DBMS running on said failed computer with an identifier of said substitute DBMS running on said another computer; said substitution information indicating that said storage area managed by said DBMS running on said failed computer is to be managed by said substitute DBMS running on said substitute computer when a failure occurs (the resync port number is pre assigned and this is similar to the unique identifier of the substitute computer, column 5 lines 7 – 37, Cotner).

With respect to claim 14,

Cotner discloses the system as recited in claim 13, wherein said substitution information comprises a mutual substitution configuration in which two of the DBMSs are associated

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with one another whereby one of the two DBMSs is a substitute DBMS for the other of the two DBMSs as a failed DBMS mutually (column 5 lines 22 – 34, Cotner).

With respect to claim 15,

Cotner disclose the system as recited in claim 13, wherein said substitution information comprises a substitution configuration in which a group of the DBMSs from a first DBMS to a last DBMS are associated with each other in a manner whereby a first DBMS is a substitute DBMS for a second DBMS which is a substitute DBMS for a third DBMS, and the last DBMS is a substitute DBMS for the first DBMS (column 5 lines 17 – 33, Cotner).

With respect to claim 16,

Cotner discloses the system as recited in claim 13, wherein said substitution information comprises an n-to-1 substitution configuration whereby one of the DBMSs is a substitute DBMS for n of the DBMSs as failed DBMSs (as shown in Figure 5 and column 5 lines 30 – 37 explain that the resync port number is matched to a list and it would be inherently possible that more than one system could have the same resync number, Cotner).

With respect to claim 17,

Cotner discloses the system as recited in claim 12, wherein said substitution information includes a plurality of pieces of association information each associating an

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identifier of said DBMS running on said failed computer, an identifier of the DBMS running on one of a plurality of substitute computers, and priority information indicating a priority with one another, said substitution information indicating that said storage area managed by said DBMS running on said failed computer is to be managed by said DBMS running on one of said substitute computers selected according to said priority information (column 5 lines 7 – 37, Cotner).

With respect to claim 18,

Cotner discloses the system as recited in claim 12, wherein the substitution control section of said substitute computer is configured to take over processing from said failed computer based on said substitution information (column 3 lines 3 – 9, Cotner).

With respect to claim 19,

Cotner discloses a system for processing databases, said system comprising:

- a plurality of storage areas each storing a database (Figure 1, Cotner); and
- a plurality of computers each having a DBMS running thereon which manages one of said plurality of storage areas, each said storage area being associated with only said DBMS managing said storage area (Figure 2 and column 1 lines 41 – 62, Cotner);
- wherein each DBMS includes a substitution control section configured, if one of said plurality of database servers is found to have failed as a failed

database server when a request for processing is made to said failed database server, to obtain an identifier of another one of said plurality of database servers as a substitute database server which is to take over said processing from said failed database server based on information on substitution relations between said plurality of database servers, and switching from said failed database server to said substitute database server for receiving said request for said processing (Figure 2, column 2 lines 60 – 67 and column 3 lines 1 – 9, Cotner); and

- wherein said information on substitution relations between said plurality of database servers indicating which one of said plurality of database servers is used as a substitute database server if one of the other database servers fails is stored beforehand (Figures 3 and 4, column 4 lines 60 – 67 and column 5 lines 1 – 6, Cotner).

With respect to claim 20,

Cotner discloses the system as recited in claim 19, further comprising a communications control apparatus configured to receive said request to which a substitution instruction based on said information on substitution relations has been added upon a failure of said failed database (Figure 3 and 4, Cotner); and wherein said substitution control section is configured to recognize said substitution instruction and perform said processing in place of said failed database server based on said recognized substitution instruction (the resync port number is pre assigned and this is

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similar to the unique identifier of the substitute computer, column 5 lines 7 – 37, Cotner).

With respect to claim 21,

Cotner discloses the system as recited in claim 20, wherein said substitution control section is configured to change an execution environment of said substitute database server to an execution environment of said failed database server before performing said processing in place of said failed database server (column 8 lines 36 – 51, Cotner).

With respect to claim 22,

Cotner discloses the system as recited in claim 20, wherein said substitution control section is configured to use a database buffer of the substitute computer for accessing a database storage area, a table, or an index associated with said failed database server (where the list could be an index in column 8 lines 36 – 42 and in Figure 5 element 215 is a table that has the resync numbers, Cotner).

With respect to claim 23,

Cotner discloses the system as recited in claim 20, further comprising a processing request receiving device configured, if one of said plurality of database servers is found to have failed as a failed database server when a request for processing is made to said failed database server, to add a substitution instruction to said request for processing based on said information on substitution relations, before

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sending said request for processing to said computers (column 7 lines 29 – 47, Cotner).

With respect to claim 24,

Cotner discloses a computer readable medium storing a program for processing databases in a system which includes a storage area storing said database and a plurality of computers each having a DBMS running thereon which manages said storage area, each said storage area being associated with only said DBMS managing said storage area, the program comprising:

- code for, when a failure has occurred in one of said plurality of computers as a failed computer, obtaining preset substitution information indicating that the storage area managed by the DBMS running on said failed computer is to be managed by the DBMS running on another one of said plurality of computers as a substitute DBMS (Figure 2, column 2 lines 60 – 67 and column 3 lines 1 – 9, Cotner); and
- code for, based on said substitution information, changing association of said storage area with said failed computer to said substitute DBMS, said storage area to be managed by said DBMS running on said substitute computer (Figures 3 and 4, column 4 lines 60 – 67 and column 5 lines 1 – 6, Cotner).

With respect to claim 25,

Cotner discloses the program as recited in claim 24, wherein said substitution information includes association information associating an identifier of said DBMS

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running on said failed computer with an identifier of said DBMS running on said substitute computer, said substitution information indicating that said storage area managed by said DBMS running on said failed computer is to be managed by said DBMS running on said substitute computer when a failure occurs (the resyn port number is pre assigned and this is similar to the unique identifier of the substitute computer, column 5 lines 7 – 37, Cotner).

With respect to claim 26,

Cotner discloses the program as recited in claim 24, wherein said substitution information includes a plurality of pieces of association information each associating an identifier of said DBMS running on said failed computer, an identifier of the DBMS running on one of a plurality of substitute computers, and priority information indicating a priority with one another, said substitution information indicating that said storage area managed by said DBMS running on said failed computer is to be managed by said DBMS running on one of said substitute computers selected according to said priority information (column 5 lines 7 – 37, Cotner).

With respect to claim 27,

Cotner discloses the program as recited in claim 24, further comprising code for taking over processing from said failed computer by said substitute DBMS based on said substitution information (column 3 lines 3 – 9, Cotner).



With respect to claim 28,

Cotner discloses the program as recited in claim 27, further comprising: code for receiving said request to which a substitution instruction based on said information on substitution relations has been added upon a failure of said failed database (Figure 3 and 4, Cotner); and code for recognizing said substitution instruction and performing said processing in place of said failed database server based on said recognized substitution instruction (the resync port number is pre assigned and this is similar to the unique identifier of the substitute computer, column 5 lines 7 – 37, Cotner).

With respect to claim 29,

Cotner discloses the program as recited in claim 28, further comprising code for, before performing said processing in place of said failed database server, changing an execution environment of said substitute database server to an execution environment of said failed database server, said substitute database server taking over said processing (column 8 lines 36 – 51, Cotner).

With respect to claim 30,

Cotner discloses the program as recited in claim 28, wherein said code for performing said processing in place of said failed database server comprises code for using a database buffer of the substitute DBMS for accessing a database storage area, a table, or an index associated with said failed database server (where the list could be

an index in column 8 lines 36 – 42 and in Figure 5 element 215 is a table that has the resync numbers, Cotner).

With respect to claim 31,

Cotner discloses a system for processing databases, said system comprising:

- a plurality of storage areas each storing a database (Figure 1, Cotner);
- a plurality of computers each having a DBMS running thereon which manages one of said plurality of storage areas, each said storage area being associated with only said DBMS managing said storage area (Figure 2 and column 1 lines 41 – 62, Cotner); and
- a management system coupled with the plurality of computers (Figure 2, Cotner);
- wherein the management system is configured to determine whether a failure has occurred in one of said plurality of computers as a failed computer; and, if a failure has occurred, to obtain preset substitution information indicating that the storage area managed by the DBMS running on said failed computer is to be managed by the DBMS running on another one of said plurality of computers as a substitute DBMS (Figure 2, column 2 lines 60 – 67 and column 3 lines 1 – 9, Cotner); and
- wherein each computer is configured, when a failure has occurred in one of said plurality of computers as a failed computer, to obtain the preset substitution information from the management system; and, based on said

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substitution information, to change association of said storage area with said failed computer to said substitute computer, said storage area to be managed by said DBMS running on said substitute computer (Figures 3 and 4, column 4 lines 60 – 67 and column 5 lines 1 – 6, Cotner).

With respect to claim 32,

Cotner discloses the system as recited in claim 31, wherein said management system is configured to send a request for processing including accessing a storage area; and wherein, if the DBMS associated with the storage area to be accessed is the failed computer, the management system is configured to add a substitution instruction to the request based on said preset substitution information (column 7 lines 29 – 47, Cotner).

With respect to claim 33,

Cotner discloses the system as recited in claim 32, wherein said substitute DBMS is configured, upon receiving said request from said management system with said substitution instruction, to change an execution environment of said substitute DBMS to an execution environment of said failed computer before performing said processing in place of said failed computer (column 8 lines 36 – 51, Cotner).

***Conclusion***

6. THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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**Contact Information**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Navneet K. Ahluwalia whose telephone number is 571-272-5636.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alam T. Hosain can be reached on 571-272-3978. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

*Navneet*

Navneet K. Ahluwalia  
Examiner  
Art Unit 2166

*TM 2/28/07.*

Dated: 02/21/2007



**HOSAIN ALAM**  
SUPERVISORY PATENT EXAMINER